

PCH/PREDICT Update:

Routing Topology and Network Quality Data Collection and Hosting

September 27, 2005

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Packet Clearing House

PREDICT Year One Contributions

- IRTA: Daily local routing topology capture at 44 Internet Exchange Points (IXPs) distributed globally
- E2ECQM: End-to-end performance metrics captured on termination of VoIP calls routed through the PCH INOC-DBA hotline network
- Hosting: Raw topology (RIB) data by day/site, plus various user-defined aggregates for session-level SIP quality metrics

IRTA: Distributed Topology Capture

- **Compatible with Route Views**
Both archives generated with the same script written by former PCH associate Sean McCreary
- **Complementary to Route Views**
RV captures full transit views from multiple providers; PCH captures local interconnection views at many different sites
- **Counterpoint to Route Views?**
Whether Route View's use of bgp-multipath affects capture results remains unknown

IRTA Looking Glass

This is the Packet Clearing House looking glass, a display of peering routes available via exchange points around the world. These routing tables are also available as [daily snapshots](#).

This looking glass does not show full Internet routing tables, just peering routes. If you want to see what routes are visible at certain exchange points or through certain networks, this will be useful for you. If you are looking for full routing tables to verify network reachability, you will be better served by [the Route Views project](#).

At every exchange point where we're present, we peer with those who are willing to peer with us. Networks that do not peer with us do not have their data included here. If you are present at one of these exchange points and would like your data included in our looking-glass, please contact peering@pch.net.



















| | |
|--|---|
| Query: <ul style="list-style-type: none"><input type="radio"/> show ip bgp <prefix> [netmask]<input type="radio"/> show ip bgp neighbor <IP_addr> routes<input type="radio"/> show ip bgp regex <reg_exp><input type="radio"/> show ip bgp summary<input type="radio"/> show ip bgp dampened-paths Argument(s): <input type="text"/> | Router: <div><div>AMS-IX, Amsterdam, NL</div><div>APE, Auckland, New Zealand</div><div>BDIX, Dhaka, Bangladesh</div><div>Equinix, Ashburn, VA, US</div><div>Equinix, Los Angeles, CA, US</div><div>Equinix, Singapore</div><div>JINX, Johannesburg, South Africa</div><div>LAIIX, Los Angeles, CA, US</div><div>LINX, London, UK</div><div>NAP of the Americas, Miami, FL, US</div><div>Nepal Internet Exchange, Kathmandu</div><div>NSPIX2, Tokyo, Japan</div><div>NYIIX, New York, NY, US</div><div>PAIX, Palo Alto, CA, US</div><div>PAIX, New York</div><div>SIX and PAIX, Seattle, WA, US</div><div>SOX, Singapore</div><div>VIX, Vienna, Austria</div><div>WAIX, Perth, Australia</div><div>WIX, Wellington, New Zealand</div></div> |
|--|---|

Submit

Reset

IRTA Raw Archives

Index of /resources/data/routing-tables/archive/2005

| Name | Last modified | Size | Description |
|---|-------------------------------|----------------------|-----------------------------|
|  Parent Directory | 21-May-2005 03:20 | - | |
|  200paul.woodynet.pch...> | 26-Sep-2005 20:00 | - | |
|  amsix.woodynet.pch.net/ | 27-Sep-2005 03:01 | - | |
|  atlanta-ix.woodynet...> | 27-Sep-2005 03:00 | - | |
|  bdix.woodynet.pch.net/ | 27-Sep-2005 03:00 | - | |
|  equinix-ashburn.wood...> | 27-Sep-2005 03:03 | - | |
|  equinix-la.woodynet...> | 26-Sep-2005 15:03 | - | |
|  equinix-sin.woodynet...> | 27-Sep-2005 03:00 | - | |
|  hkix.woodynet.pch.net/ | 27-Sep-2005 03:00 | - | |
|  jinx.woodynet.pch.net/ | 27-Sep-2005 03:00 | - | |
|  lalix.woodynet.pch.net/ | 27-Sep-2005 03:00 | - | |
|  linx.woodynet.pch.net/ | 27-Sep-2005 03:01 | - | |
|  netnod.woodynet.pch...> | 27-Sep-2005 03:00 | - | |
|  nota.woodynet.pch.net/ | 26-Sep-2005 20:00 | - | |
|  npix.woodynet.pch.net/ | 27-Sep-2005 03:00 | - | |
|  nspixp2.woodynet.pch...> | 27-Sep-2005 03:00 | - | |
|  nylix.woodynet.pch.net/ | 27-Sep-2005 03:02 | - | |
|  optiglobe.woodynet.p...> | 26-Sep-2005 20:00 | - | |

IRTA Collector Sites

| Host/Router | City | Country | Looking Glass |
|-------------|---------------|--------------|---------------|
| acc | Accra | Ghana | |
| amsix | Amsterdam | Netherlands | Y |
| netnod | Amsterdam | Netherlands | |
| sgw | Ann Arbor | USA | |
| akl | Auckland | New Zealand | |
| ape | Auckland | New Zealand | Y |
| bos | Boston | USA | |
| dar | Dar es Salaam | Tanzania | |
| bdix* | Dhaka | Bangladesh | Y |
| dac* | Dhaka | Bangladesh | |
| han | Hanoi | Vietnam | |
| hkg* | Hong Kong | China SAR | |
| ibn | Ibadan | Nigeria | |
| jinx | Johannesburg | South Africa | Y |
| jnb | Johannesburg | South Africa | |
| ebb | Kampala | Uganda | |
| ktm* | Kathmandu | Nepal | |
| npix* | Kathmandu | Nepal | Y |
| fih | Kinshasa | Zaire | |
| linx | London | UK | Y |
| equinix-la* | Los Angeles | USA | Y |
| laiix* | Los Angeles | USA | Y |
| nota | Maimi | USA | Y |
| mpm | Maputo | Mozambique | |
| mts | Mbabene | Swaziland | |
| mia | Miami | USA | |
| nbo | Nairobi | Kenya | |
| jfk* | New York City | USA | |
| lga* | New York City | USA | |

| Host/Router | City | Country | Looking Glass |
|-----------------|---------------|-------------|---------------|
| nyiix | New York City | USA | Y |
| paix-ny | New York City | USA | Y |
| paix | Palo Alto | USA | Y |
| pao | Palo Alto | USA | |
| per* | Perth | Australia | |
| waix* | Perth | Australia | |
| 200Paul | San Francisco | USA | |
| sfo | San Francisco | USA | |
| san | San Jose | USA | |
| gru | Sao Paulo | Brazil | |
| optiglobe | Sao Paulo | Brazil | |
| sea | Seattle | USA | |
| sel | Seoul | Korea | |
| equinix-sin | Singapore | Singapore | Y |
| sin | Singapore | Singapore | |
| sox | Singapore | Singapore | Y |
| arn | Stockholm | Sweden | |
| nrt* | Tokyo | Japan | |
| nspixp2* | Tokyo | Japan | Y |
| vix | Vienna | Austria | Y |
| vie | Vienna | Austria | |
| equinix-ashburn | Virginia | USA | Y |
| dca | Washington DC | USA | |
| iad | Washington DC | USA | |
| wlg* | Wellington | New Zealand | |
| wix* | Wellington | New Zealand | |

*Established with PREDICT year 1 support

E2ECQM Network Quality Data

- Data captured from SIP BYE messages generated by calls between INOC-DBA members (network operators)
- Currently, 2000 +/- users -- about half visible, representing unique Autonomous Systems spread around the world
- Endogenous demand, facilitated by new user config wizard, accelerating growth, call volume...more data

E2ECQM Raw Data Archives

[Login](#)
[\(forgot password?\)](#)

[Home](#)
[Directory](#)

[Archives](#)
[Documentation](#)
[Statistics](#)
[Press](#)

[Admin](#)

INOC-DBA Statistics

Call Volume

- [2005 Call Volume Monthly Summary](#)
 - [2005 Jul Call Volume Summary](#)
 - [2005 Jun Call Volume Summary](#)
 - [2005 May Call Volume Summary](#)
 - [2005 Apr Call Volume Summary](#)
 - [2005 Mar Call Volume Summary](#)
 - [2005 Feb Call Volume Summary](#)
 - [2005 Jan Call Volume Summary](#)
- [2004 Call Volume Monthly Summary](#)
 - [2004 Dec Call Volume Summary](#)
 - [2004 Nov Call Volume Summary](#)
 - [2004 Oct Call Volume Summary](#)
 - [2004 Sep Call Volume Summary](#)

New Users

- [2005 New Users Monthly Summary](#)
 - [2005 Jul New Users Summary](#)
 - [2005 Jun New Users Summary](#)
 - [2005 May New Users Summary](#)
 - [2005 Apr New Users Summary](#)
 - [2005 Mar New Users Summary](#)
 - [2005 Feb New Users Summary](#)
 - [2005 Jan New Users Summary](#)
- [2004 New Users Monthly Summary](#)
 - [2004 Dec New Users Summary](#)
 - [2004 Nov New Users Summary](#)
 - [2004 Oct New Users Summary](#)
 - [2004 Sep New Users Summary](#)

New ASN Statistics

E2ECQM Network Quality Data

| <u>Field Number</u> | <u>Name</u> | <u>Parameter</u> |
|---------------------|------------------------|--|
| 1. | <u>ts_start</u> | Transmission start (yyyymmddhhmmss, GMT) |
| 2. | <u>duration</u> | Transmission duration, seconds |
| 3. | <u>network_from</u> | Longest routed encompassing prefix, max. /24 (anonymization) |
| 4. | <u>asn_from</u> | Originating ASN |
| 5. | <u>country_from</u> | ISO3166 A2 code for originating ASN |
| 6. | <u>network_to</u> | Longest routed encompassing prefix, max. /24 (anonymization) |
| 7. | <u>asn_to</u> | Terminating ASN |
| 8. | <u>country_to</u> | ISO3166 A2 code for terminating ASN |
| 9. | <u>orig_tx_pkt</u> | Number of packets transmitted as measured at origination |
| 10. | <u>orig_tx_byte</u> | Number of bytes transmitted as measured at origination |
| 11. | <u>dest_rx_lostpkt</u> | Number of packets lost as measured at destination |
| 12. | <u>dest_rx_latepkt</u> | Number of packets delayed as measured at destination |
| 13. | <u>dest_rx_avgjit</u> | Average jitter for session as measured at destination |
| 14. | <u>dest_tx_pkt</u> | Number of packets transmitted as measured at destination |
| 15. | <u>dest_tx_byte</u> | Number of bytes transmitted as measured at destination |
| 16. | <u>orig_rx_lostpkt</u> | Number of packets lost as measured at origin |
| 17. | <u>orig_rx_latepkt</u> | Number of packets delayed as measured at origin |
| 18. | <u>orig_rx_avgjit</u> | Average jitter for session as measured at origin |

E2ECQM User Portal

Logged in as: Tom Vest
(sysadmin)

[Logout](#)

[My Profile](#)

[My Phone Numbers](#)

[My Termination Methods](#)

[My Directory Listing](#)

[Directory](#)

[Documentation](#)

[Mailing List Archives](#)

[Statistics](#)

[Manage Users](#)

[Pending Users](#)

[Add User](#)

[Manage Orgs](#)

[Manage Orgs: Orgadmins](#)

[Add Org](#)

[Manage Phones](#)

SER Route Statistics

Please use the controls below to select the "slice" of INOC-DBA call data you'd like to see. The data will be returned as a comma-separated-value (CSV) text file, with field labels in the first row.

Note that the following default values, if not further narrowed, will return the entire contents of the database - this may take some time:

Start date:

29 Sep 2004

End date:

27 Sep 2005

By source country:

Any

By destination country:

Any

By source Autonomous System Number (ASN):

Any

By destination Autonomous System Number (ASN):

Any

By source IP prefix:

0.0.0.0 /0

By destination IP prefix:

0.0.0.0 /0

Note that all data is anonymized to the nearest advertised enclosing prefix

Submit

E2ECQM INOC-DBA Config Wizard

Logged in as: **Tom Vest**
(sysadmin)

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[Add User](#)

[Manage Orgs](#)

[Manage Orgs: Orgadmins](#)

[Add Org](#)

[Manage Phones](#)

Editing New User

Given (first) Name

Middle Name

Family (last) Name

Login

Password

PCH access type

Companies

Email

POTS phone

Address

City

Anonymization

- **IRTA data is public data; operators peer with PCH for the purpose of facilitating research**
- **E2ECQM: Originating, terminating IP addresses are replaced with shortest contemporaneously routed covering prefix (min. /24).**
- **Anonymization occurs in-line; PCH does not retain or archive individual caller/session data.**

Questions...thanks!

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